10/808,697
Date of Search: 11/16/06

```
 ; d s
Set     Items   Description

S2        721   S (MOBILE OR CELL) (5N) (CARD (1W) READER)

S4          4   S S2 AND (SIM (5N) (SLOT) (5N) (WRITER))
S5          4   RD S4  (unique items)

?  show files
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[File 15] **ABI/Inform(R)** 1971-2006/Nov 16
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[File 9] **Business & Industry(R)** Jul/1994-2006/Nov 15
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[File 275] **Gale Group Computer DB(TM)** 1983-2006/Nov 16
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[File 476] **Financial Times Fulltext** 1982-2006/Nov 16
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[File 610] **Business Wire** 1999-2006/Nov 16
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**File 610: File 610 now contains data from 3/99 forward. Archive data (1986-2/99) is available in File 810.*

[File 624] **McGraw-Hill Publications** 1985-2006/Nov 16
(c) 2006 McGraw-Hill Co. Inc. All rights reserved.
**File 624: Homeland Security & Defense and 9 Platt energy journals added Please see HELP NEWS624 for more*

[File 636] **Gale Group Newsletter DB(TM)** 1987-2006/Nov 16
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[File 621] **Gale Group New Prod.Annou.(R)** 1985-2006/Nov 15
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**File 613: File 613 now contains data from 5/99 forward. Archive data (1987-4/99) is available in File 813.*

[File 813] **PR Newswire** 1987-1999/Apr 30
(c) 1999 PR Newswire Association Inc. All rights reserved.

[File 16] **Gale Group PROMT(R)** 1990-2006/Nov 16
(c) 2006 The Gale Group. All rights reserved.

[File 160] **Gale Group PROMT(R)** 1972-1989
(c) 1999 The Gale Group. All rights reserved.

[File 634] **San Jose Mercury** Jun 1985-2006/Nov 14

[File 148] **Gale Group Trade & Industry DB** 1976-2006/Nov 16

[File 20] **Dialog Global Reporter** 1997-2006/Nov 16

[File 35] **Dissertation Abs Online** 1861-2006/Oct

[File 583] **Gale Group Globalbase(TM)** 1986-2002/Dec 13

**File 583: This file is no longer updating as of 12-13-2002.*

[File 65] **Inside Conferences** 1993-2006/Nov 16

[File 2] **INSPEC** 1898-2006/Nov W1

[File 474] **New York Times Abs** 1969-2006/Nov 16

[File 475] **Wall Street Journal Abs** 1973-2006/Nov 16

[File 99] **Wilson Appl. Sci & Tech Abs** 1983-2006/Sep

[File 348] **EUROPEAN PATENTS** 1978-2006/ 200646

**File 348: For important information about IPCR/8 and forthcoming changes to the IC= index, see HELP NEWSIPCR.*

[File 349] **PCT FULLTEXT** 1979-2006/UB=20061109UT=20061102

**File 349: For important information about IPCR/8 and forthcoming changes to the IC= index, see HELP NEWSIPCR.*

[File 347] **JAPIO** Dec 1976-2006/Jul(Updated 061116)


```
; d s
Set     Items   Description
S1          0   S (BUDGET) (10N) CATAGORY (10N) (HOURS)
S2        721   S (MOBILE OR CELL) (5N) (CARD (1W) READER)
S3          6   S S2 (S) (SIMM (10N) (SLOT OR CARD))
S4          4   S S2 AND (SIM (5N) (SLOT) (5N) (WRITER))
S5          4   RD S4  (unique items)
```

10/808,697
Date of Search: 11/16/06

```
? show files
```

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[File 9] **Business & Industry(R)** Jul/1994-2006/Nov 15
(c) 2006 The Gale Group. All rights reserved.

[File 810] **Business Wire** 1986-1999/Feb 28
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[File 275] **Gale Group Computer DB(TM)** 1983-2006/Nov 16
(c) 2006 The Gale Group. All rights reserved.

[File 476] **Financial Times Fulltext** 1982-2006/Nov 16
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[File 610] **Business Wire** 1999-2006/Nov 16
(c) 2006 Business Wire. All rights reserved.
**File 610: File 610 now contains data from 3/99 forward. Archive data (1986-2/99) is available in File 810.*

[File 624] **McGraw-Hill Publications** 1985-2006/Nov 16
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**File 624: Homeland Security & Defense and 9 Platt energy journals added Please see HELP NEWS624 for more*

[File 636] **Gale Group Newsletter DB(TM)** 1987-2006/Nov 16
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**File 613: File 613 now contains data from 5/99 forward. Archive data (1987-4/99) is available in File 813.*

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[File 16] **Gale Group PROMT(R)** 1990-2006/Nov 16
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[File 634] **San Jose Mercury** Jun 1985-2006/Nov 14
(c) 2006 San Jose Mercury News. All rights reserved.

[File 148] **Gale Group Trade & Industry DB** 1976-2006/Nov 16
(c)2006 The Gale Group. All rights reserved.

[File 20] **Dialog Global Reporter** 1997-2006/Nov 16
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[File 35] **Dissertation Abs Online** 1861-2006/Oct

[File 583] **Gale Group Globalbase(TM)** 1986-2002/Dec 13

**File 583: This file is no longer updating as of 12-13-2002.*

[File 65] **Inside Conferences** 1993-2006/Nov 16

[File 2] **INSPEC** 1898-2006/Nov W1

[File 474] **New York Times Abs** 1969-2006/Nov 16

[File 475] **Wall Street Journal Abs** 1973-2006/Nov 16

[File 99] **Wilson Appl. Sci & Tech Abs** 1983-2006/Sep

[File 348] **EUROPEAN PATENTS** 1978-2006/ 200646

**File 348: For important information about IPCR/8 and forthcoming changes to the IC= index, see HELP NEWSIPCR.*

[File 349] **PCT FULLTEXT** 1979-2006/UB=20061109UT=20061102

**File 349: For important information about IPCR/8 and forthcoming changes to the IC= index, see HELP NEWSIPCR.*

[File 347] **JAPIO** Dec 1976-2006/Jul(Updated 061116)


```
 ; d s
Set     Items   Description
S1          0   S (BUDGET) (10N) CATAGORY (10N) (HOURS)
S2        721   S (MOBILE OR CELL) (5N) (CARD (1W) READER)
S3          6   S S2 (S) (SIMM (10N) (SLOT OR CARD))
S4          4   S S2 AND (SIM (5N) (SLOT) (5N) (WRITER))
S5          4   RD S4  (unique items)
 ; t s5/7,k/1-4
```

5/7K/1 (Item 1 from file: 349) **Links**
PCT FULLTEXT

01381312
SECURE PIN ENTRY DEVICE FOR MOBILE PHONES
DISPOSITIF D'ENTREE DE NIP SECURISE DESTINE A DES TELEPHONES PORTABLES

Patent Applicant/Patent Assignee:

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  US; US (Residence); US (Nationality)
  (For all designated states except: US)
- **PETROV Andrew**; 16 Lavender Drive, Princeton, NJ 08540
  US; US (Residence); US (Nationality)
  (Designated for all)
- **GOLDTHWAITE Scott**; 15 Oregon Court, Hingham, MA 02043
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  (Designated for all)
- **GRAYLIN William**; 15 Brich Pond Drive, Saugus, MA 01906
  US; US (Residence); US (Nationality)
  (Designated for all)

Patent Applicant/Inventor:

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- **GOLDTHWAITE Scott**
  15 Oregon Court, Hingham, MA 02043; US; US (Residence); US (Nationality); (Designated for all)
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  15 Brich Pond Drive, Saugus, MA 01906; US; US (Residence); US (Nationality); (Designated for all)

Legal Representative:

- **COLLINS Aliki K P D(agent)**
  AKC Patents, 215 Grove Street, Newton, MA 02466; US;

	Country	Number	Kind	Date
Patent	WO	200663144	A2	20060615
Application	WO	2005US44437		20051208
Priorities	US	2004634399		20041208
	US	2005226823		20050914
	US	NONE		20051207

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)
AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG;
BR; BW; BY; BZ; CA; CH; CN; CO; CR; CU;
CZ; DE; DK; DM; DZ; EC; EE; EG; ES; FI;
GB; GD; GE; GH; GM; HR; HU; ID; IL; IN;
IS; JP; KE; KG; KM; KN; KP; KR; KZ; LC;
LK; LR; LS; LT; LU; LV; LY; MA; MD; MG;
MK; MN; MW; MX; MZ; NA; NG; NI; NO; NZ;
OM; PG; PH; PL; PT; RO; RU; SC; SD; SE;

SG; SK; SL; SM; SY; TJ; TM; TN; TR; TT;
TZ; UA; UG; US; UZ; VC; VN; YU; ZA; ZM;
ZW;

[EP] AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES;
FI; FR; GB; GR; HU; IE; IS; IT; LT; LU;
LV; MC; NL; PL; PT; RO; SE; SI; SK; TR;

[OA] BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW;
ML; MR; NE; SN; TD; TG;

[AP] BW; GH; GM; KE; LS; MW; MZ; NA; SD; SL;
SZ; TZ; UG; ZM; ZW;

[EA] AM; AZ; BY; KG; KZ; MD; RU; TJ; TM;

IPC	Level	Value	Position	Status	Version	Action	Source	Office
H04L-0009/00	A	I	F	B	20060101		H	US

Publication Language: English
Filing Language: English
Fulltext word count: 5861

English Abstract:

A secure mobile phone- point of sale (POS) system includes a mobile phone integrated with a secure PED module. The secure PED module is integrated with the mobile phone via the phone's serial port or directly to the phone's Printed Circuit Board Assembly (PCBA). The secure PED module conforms to security standards imposed by the payment card industry. The secure mobile phone-POS system has the functionality of both the secure PED and the mobile phone and the look and feel of the mobile phone.

French Abstract:

L'invention concerne un systeme de point de vente-telephone mobile securise (POS) comprenant un telephone mobile d'une seule piece avec un module PED securise. Celui-ci est integre avec le telephone mobile par le biais du port en serie du telephone ou directement dans l'ensemble de carte de circuits imprimes (PCBA) de celui-ci. Le module PED securise repond aux normes de securite imposees par l'industrie des cartes de paiement. Le systeme POS-telephone mobile securise possede la fonctionnalite du PED securise et le telephone mobile et l'apparence et le toucher du telephone mobile.

Type	Pub. Date	Kind	Text
Publication	20060615	A2	Without international search report and to be republished upon receipt of that report.

Detailed Description:

...secure and have not been approved or certified by major financial institutions. Accordingly, the current **mobile** phone-**card reader** combination devices do not meet the security requirements and carmot be certified for PIN entry... ...transaction application and a transaction application

commanding protocol (TACP). The hardware components include microprocessor, RAM, **SIM slot**, **SIM** card, SAM card, SAM **slot**, smart card reader/**writer**, screen display, keypad, battery, flash memory, erasable memory, serial port, magnetic card reader, real time ...

Claims:

I 0
12. A secure mobile phone-point of sale (mobile phone-POS) system forconducting secure Personal Identification Number (PIN) entry requiring electronictransactions, comprising:a mobile phone;a secure PIN Entry Device (PED) comprising a keypad, a screen display and security components effecting said keypad and said screen display to meet certification requirements of a certification institution for conducting said secure PINentry requiring transactions;software and hardware components for processing said secure PIN entryrequiring electronic transactions;wherein said secure PED is integrated with said mobile phone; andwherein said mobile phone-POS system comprises functionality of both said mobile phone and said secure PED.
2 The system of claim I wherein said mobile phone-POS system comprises a
mobile phone form factor selected form a group consisting of bar type, clamshell, flip and slide.
3 The system of claim 2 wherein said mobile phone-POS system has a length in the range of 2 - 8 inches, width in the range of 1 3 iftches and weight in the range of 5-10 ounces.

4 The system of claim I wherein said mobile phone comprises a serial interface port and said secure PED is integrated with said mobile phone via said serial interface port.

5 The system of claim I wherein said mobile phone comprises a Printed Circuit Board Assembly (PCBA) and said secure PED is integrated directly with said mobile phone's PCBA.

6 The system of claim I wherein said mobile phone comprises a mobile phone PCBA and said secure PED comprises a PED PCBA and said mobile phone PCBA is integrated with said PED PCBA via a connector.
13. The system of claim I wherein said secure PED comprises a Printed Circuit Board Assembly (PCBA) and said mobile phone comprises a radio communication module integrated directly onto said secure PED's PCBA.
8 The system of claim 7 wherein said mobile phone further comprises an
antenna, a speaker, and a microphone, and said antenna, said speaker and said microphone are integrated directly onto said secure PED's PCBA.
9 The system of claim I further comprising a PCBA and said mobile phone and said secure PED are integrated directly onto said PCBA.

10 The system of claim 1 wherein said mobile phone comprises a Subscriber Identification Module (SIM) slot and said secure PED is integrated with said mobile phone via said SIM slot.

11 The system of claim 1 wherein said certification requirements of a
certification institution are selected from a group consisting of Payment Card Industry (PCI) PED specification, Europay MasterCard Visa (EMV) Level I and level 2 standard compliance, Bank Card testing Center of China (BCTC) , Zentraler Kreditausschuss (ZKA) and Interac.
12 The system of claim I wherein said security components are selected from a group consisting of microprocessor, RAM, **SIM slot** for connecting to the said mobile phone, **SIM slot** for receiving a **SIM** card, SAM **slot** for receiving a SAM module, smart card reader/**writer**, screen display, keypad,

battery, flash memory, erasable memory, and detector switches, serial port, magnetic card reader, hardware id, real time clock, Bluetooth and Infrared port.

13 The system of claim 1 wherein said software components comprise a secure transaction application and a transaction application commanding protocol (TACP).

14 The system of claim I wherein said hardware components comprise microprocessor, RAM, **SIM slot**, **SIM** card, SAM card, SAM **slot**, smart card14reader/**writer**, screen display, keypad, battery, flash memory, erasable memory, serial port, magnetic card reader, real time clock, Bluetooth, Infrared port, IrDA and printer.
15 The system of claim I wherein said secure PED comprises said software and hardware components for processing said secure PIN entry requiring electronic transactions.

16 The system of claim 1 wherein said mobile phone comprises said software and hardware components for processing said secure PIN entry requiring electronic transactions.

17 The system of claim I wherein said mobile phone comprises a phone screen display and a phone keypad and said phone screen display and phone keypad do not meet certification requirements of a certification institution for conducting said secure PIN entry requiring transactions.

18 A secure mobile phone-POS system for conducting secure PIN entry requiring electronic transactions, comprising:a mobile phone comprising a keypad, a screen display, a Printed Circuit Board Assembly (PCBA), software and hardware components for processing said securePIN entry requiring electronic transactions;a secure PED comprising security components effecting said keypad and said screen display to meet certification requirements of a certification institution forconducting said secure PIN entry requiring transactions;wherein said secure PED is integrated directly with said mobile phone'sPCBA; andwherein said mobile phone-POS comprises functionality of both said mobile phone and said secure PED and a mobile form factor.
19 A method for conducting secure PIN entry requiring electronic transactions, comprising:providing a mobile phone;providing a secure PED comprising a keypad, a screen display and security components effecting said keypad and said screen display to meet certification15requirements of a certification institution for conducting said secure PIN entryrequiring transactions;providing software and hardware components for processing said secure PINentry requiring electronic transactions; andintegrating said secure PED with said mobile phone thereby forming a securemobile phone-POS system; andwherein said secure mobile phone-POS system comprises functionality of both said mobile phone and said secure PED and a mobile form factor.
20 The method of claim 19 wherein said mobile phone comprises a serial interface port and said secure PED is integrated with said mobile phone via said serial interface port.
21 The method of claim 19 wherein said mobile phone comprises a Printed Circuit Board Assembly (PCBA) and said secure PED is integrated directly with said mobile phone's PCBA.
22 The method of claim 19 wherein said mobile phone comprises a mobile phone PCBA and said secure PED comprises a PED PCBA and said mobile phone PCBA is integrated with said PED PCBA via a connector.

23 The method of claim 19 wherein said secure PED comprises a Printed Circuit Board Assembly (PCBA) and said mobile phone comprises a radio communication module integrated directly onto

said secure PED's PCBA.

24 The method of claim 23 wherein said mobile phone further comprises an antenna, a speaker, and a microphone, and said antenna, said speaker and said microphone are integrated directly onto said secure PED's PCBA.
25 The method of claim 19 further comprising a PCBA and said mobile phone and said secure PED are integrated directly onto said mobile phone-POS PCBA.
16. The method of claim 19 wherein said mobile phone Comprises a Subscriber Identification Module (SIM) slot and said secure PED is integrated with said mobile phone via said SIM slot.
27 The method of claim 19 wherein said certification requirements of a certification institution are selected from a group consisting of PCI PED specification, Europay MasterCard Visa (EMV) Level I and level 2 standard compliance, Bank Card testing Center of China (BCTQ, ZKA and Interac.
28 The method of claim 19 wherein said security components are selected from a group consisting of microprocessor, RAM, **SIM slot** for connecting to the said mobile phone, **SIM slot** for receiving a **SIM** card, SAM **slot** for receiving a SAM module, smart card reader/**writer**, screen display, keypad, battery, flash memory, erasable memory, and detector switches, serial port, magnetic card reader, hardware id, real time clock, Bluetooth and Infrared port.

29 The method of claim 19 wherein said software components comprise a secure transaction application and a transaction application commanding protocol (TACP).

30 The method of claim 19 wherein said hardware components comprise microprocessor, RAM, **SIM slot**, **SIM** card, SAM card, SAM **slot**, smart cardreader/**writer**, screen display, keypad, battery, flash memory, erasable memory, serial port, magnetic card reader, real time clock, Bluetooth, Infrared port, IrDA and printer.
31 The method of claim 19 wherein said secure PED comprises said software and hardware components for processing said secure PIN entry requiring electronic transactions.

32 The method of claim 19 wherein said mobile phone comprises said software and hardware components for processing said secure PIN entry requiring electronic transactions.

33 The method of claim 19 wherein said mobile phone comprises a phone screen display and a phone keypad and said phone screen display and phone keypad do not
1 7meet certification requirements of a certification institution for conducting said secure PIN entry requiring transactions.
34 A pin entry device comprising:
a keypad;a screen display;security components effecting said keypad and said screen display to meet certification requirements of a certification institution for entering and displayingsecurity sensitive information, respectively; and1 0 wherein said pin entry device is integrated with a non-secure mobile phone thereby upgrading said mobile phone with said security components.1 5

Claims:

...claim I wherein said security components are selected from a group consisting of microprocessor, RAM, **SIM slot** for connecting to the said mobile phone, **SIM slot** for receiving a **SIM** card, SAM **slot** for receiving a SAM module, smart card reader/**writer**, screen display, keypad, battery, flash

memory, erasable memory, and detector switches, serial port, magnetic card... ...protocol (TACP).

14 The system of claim I wherein said hardware components comprise microprocessor, RAM, **SIM slot, SIM** card, SAM card, SAM **slot**, smart card14reader/ **writer**, screen display, keypad, battery, flash memory, erasable memory, serial port, magnetic card reader, real time... ...claim 19 wherein said security components are selected from a group consisting of microprocessor, RAM, **SIM slot** for connecting to the said mobile phone, **SIM slot** for receiving a **SIM** card, SAM **slot** for receiving a SAM module, smart card reader/**writer**, screen display, keypad, battery, flash memory, erasable memory, and detector switches, serial port, magnetic card... ...protocol (TACP).
30 The method of claim 19 wherein said hardware components comprise microprocessor, RAM, **SIM slot, SIM** card, SAM card, SAM **slot**, smart cardreader/ **writer**, screen display, keypad, battery, flash memory, erasable memory, serial port, magnetic card reader, real time...

5/7K/2 (Item 2 from file: 349) **Links**
PCT FULLTEXT

01166432
SYSTEM AND METHOD FOR SECURELY STORING, GENERATING, TRANSFERRING AND PRINTING ELECTRONIC PREPAID VOUCHERS
SYSTEME ET PROCEDE DE STOCKAGE, GENERATION, TRANSFERT ET IMPRESSION SECURISES DE BONS ELECTRONIQUES PREPAYES

Patent Applicant/Patent Assignee:

- **WAY SYSTEMS INC**; 200 Unicorn Park, Woburn, MA 01801
  US; US(Residence); US(Nationality)
  (For all designated states except: US)
- **GOLDTHWAITE Scott**; 15 Oregon Court, Hingham, MA 02043
  US; US(Residence); US(Nationality)
- **BALSAN Damien**; 78 Melrose Street, Arlington, MA 02474
  US; US(Residence); US(Nationality)

Patent Applicant/Inventor:

- **GOLDTHWAITE Scott**
  15 Oregon Court, Hingham, MA 02043; US; US(Residence); US(Nationality);
- **BALSAN Damien**
  78 Melrose Street, Arlington, MA 02474; US; US(Residence); US(Nationality);

Legal Representative:

- **COLLINS Aliki K ph d(agent)**
  AKC Patents, 215 Grove Street, Newton, MA 02466; US;

	Country	Number	Kind	Date
Patent	WO	200488641	A2-A3	20041014
Application	WO	2004US9149		20040325
Priorities	US	2003457716		20030326
	US	2004808697		20040325

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)
AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG;
BR; BW; BY; BZ; CA; CH; CN; CO; CR; CU;
CZ; DE; DK; DM; DZ; EC; EE; EG; ES; FI;
GB; GD; GE; GH; GM; HR; HU; ID; IL; IN;
IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR;
LS; LT; LU; LV; MA; MD; MG; MK; MN; MW;
MX; MZ; NA; NI; NO; NZ; OM; PG; PH; PL;
PT; RO; RU; SC; SD; SE; SG; SK; SL; SY;

TJ; TM; TN; TR; TT; TZ; UA; UG; US; UZ;
VC; VN; YU; ZA; ZM; ZW;

[EP] AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES;
FI; FR; GB; GR; HU; IE; IT; LU; MC; NL;
PL; PT; RO; SE; SI; SK; TR;

[OA] BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW;
ML; MR; NE; SN; TD; TG;

[AP] BW; GH; GM; KE; LS; MW; MZ; SD; SL; SZ;
TZ; UG; ZM; ZW;

[EA] AM; AZ; BY; KG; KZ; MD; RU; TJ; TM;

Main International Patent Classes (Version 7):

IPC	Level
G06F-017/60	Main

Publication Language: English
Filing Language: English
Fulltext word count: 7806

English Abstract:

A system and a method that utilizes transaction terminals (125, 121) equipped with smart card readers to download and store multiple prepaid electronic vouchers to a smart card, retrieve and decrypt prepaid vouchers from the smart card and print a voucher receipt with a printer (122). A mobile transaction server (191) acts as a gateway to a prepaid system (190) and routes transactions between transaction terminals (125, 121) and the prepaid system and between transaction terminals. The method includes storing a voucher encryption key on a second smart card or hardware security module. The voucher encryption key is utilized to decrypt encrypted vouchers on a voucher repository smart card. The method also allows for transferring encrypted vouchers between voucher smart cards. The transaction terminals may be mobile devices communicating to the mobile transaction server over wireless networks or computers connected to a wired network.

French Abstract:

La presente invention concerne un systeme et un procede qui utilisent des terminaux de transactions (125, 121) equipes de lecteurs de cartes a puce intelligentes de maniere a telecharger et stocker un lot de plusieurs bons electroniques prepayes sur une carte a puce intelligente (124), extraire et dechiffrer des bons prepayes individuels a partir de la carte a puce intelligente et imprimer un recepisse au moyen d'une imprimante (122) connectee au terminal de transactions. Lesdits terminaux de transactions (125, 121) sont connectes a un serveur mobile de transactions (191) qui fonctionne comme une passerelle vers un systeme prepaye (190) et achemine des transactions entre des terminaux de transactions et le systeme prepaye et entre des terminaux de transactions. Cette invention a aussi trait a un procede de stockage d'une cle de chiffrement de bons sur une seconde carte a puce intelligente ou un module de securite de materiel. Ladite cle est utilisee pour dechiffrer des bons chiffres sur une carte a puce intelligente de referentiel de bons. Ladite invention a egalement pour objet un procede de transfert de bons chiffres entre des cartes a puce intelligentes de bons a l'aide d'un seul terminal de transactions ou de plusieurs terminaux de transactions. Ces

terminaux de transactions peuvent etre des dispositifs mobiles communiquant avec le serveur mobile de transactions par le biais de reseaux sans fil ou d'ordinateurs connectes a un reseau cable.

Type	Pub. Date	Kind	Text
Publication	20041014	A2	Without international search report and to be republished upon receipt of that report.
Correction	20041209		Corrections of entry in Section 1:
Republication	20041209	A2	Without international search report and to be republished upon receipt of that report.
Correction	20041209		Corrections of entry in Section 1:
Search Rpt	20050804		Late publication of international search report
Republication	20050804	A3	With international search report.
Republication	20050804	A3	Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Detailed Description:

...entitled "SYSTEM AND METHOD FOR PAYMENT TRANSACTION AUTHENTICATION", 44MOBILE DEVICE EQUIPPED WITH A CONTACTLESS SMART **CARD READER**/WRITER", and "**MOBILE** COMMUNICATION DEVICE EQUIPPED WITH A MAGNETIC STRIPE READER", respectively, the contents of which applications are... ...storage accessories. The voucher terminal may be a wireless communication device equipped with a smart **card reader** /writer module such as a **mobile** phone, a personal digital assistant (PDA), a pager, a point of sale (POS) terminal, a... ...combinations. The voucher terminal may be a wireless communication device having a subscriber identification module (**SIM**) card **slot**, a smart card reader/**writer** module electrically connected to the **SIM** card **slot** and the smart card reader/ **writer** module is adapted to receive and read/write information stored in/to the voucher smart...

Claims:

1 5
. A system for generating and storing one or more prepaid electronic voucherscomprising:a voucher host system adapted to generate said prepaid electronic vouchers;a voucher smart card; anda voucher terminal adapted to receive said prepaid electronic vouchers from said voucher host system over a network connection and to store said prepaid electronic vouchers in said voucher smart card.
2 The system of claim I further comprising a transaction server adapted to mediate and aggregate transactions and communications between said voucher terminal and said voucher host system over said network connection.

3 The system of claim 1 wherein said voucher smart card comprises a
1 5 removable smart card selected from a group consisting of a "full size" smart credit card, a "full size" smart debit card, a "plug-in" Subscriber Identification Module(SIM) smart card, a "plug-in" Secure Access Module (SAM) smart card, acontactless smart card, a stored-value card, a coupon card, a reward card, an electronic cash card, a loyalty card, an identification card and combinations thereof.
4 The system of claim I wherein said voucher smart card comprises a hardware security module (HSM) selected from a group consisting of microprocessors and storage accessories.

5 The system of claim 1 wherein said voucher terminal comprises a wireless communication device equipped with a smart card reader/writer module selected from a group consisting of a mobile phone, a personal digital assistant (PDA), a pager, a point of sale (POS) terminal, a television remote control, a personal computer and combinations thereof, and wherein said smart card reader/writer module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.
1 6. The system of claim I wherein said voucher terminal comprises a wiredcommunication device equipped with a smart card reader/writer module selected from a group consisting of a phone, a wired personal digital assistant (PDA), a point of sale(POS) terminal, a television, a personal computer and combinations thereof, and wherein said smart card reader/writer module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.
7 The system of claim 1 wherein said voucher terminal comprises a wireless communication device comprising a subscriber identification module (**SIM**) card **slot**, I 0 a smart card reader/**writer** module electrically connected to said **SIM** card **slot** and wherein said smart card reader/**writer** module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.

8 The system of claim I wherein said network is selected from a group
1 5 consisting of the Internet, a telecommunications network, a wireless wide area network (WWAN), a wireless local area network (WLAN), a personal area network (PAN) and a private communication network.
9 The system of claim 8 wherein said wireless wide area network (WWAN) is
selected from a group consisting of a Global System for MobileCommunications(GSM), General Packet Radio Service (GPRS), a Code Division Multiple Access(CDMA), CDMA 2000, and wideband CDMA(WCDMA).
10 The system of claim 2 wherein said communications comprise a format
selected from a group consisting of Short Message Service (SMS), General Packet Radio Service (GPRS), Transmission Control Protocol/Internet Protocol (TCP/IP), User Datagram Protocol (UDP), Simple Mail Transmission Protocol (SMTP), Simple Network Management Protocol (SNMP), and proprietary message formats.
11 The system of claim I further comprising a printer adapted to connect to said voucher terminal for printing hard copies of said prepaid electronic vouchers.
17. The system of claim I I wherein said printer is connected to said voucher terminal via a wired connection selected from a group consisting of a serial connection, a parallel connection, a USB connection and a mini USB connection.
13 The system of claim I I wherein said printer is connected to said voucher terminal via a wireless connection selected from a group consisting of infrared, Bluetooth, 801.lx, and short-range radio frequency (RF) connections.

14 The system of claim I wherein said prepaid electronic vouchers comprise data 0 selected from a group consisting of a mobile operator code, a voucher number, a voucher expiration date, said voucher number in an encrypted format, a voucher value, voucher currency code, voucher product code, voucher product description, voucher owner code, and voucher owner. 5 15. The system of claim 1 wherein said prepaid electronic vouchers comprise encrypted data.

16 The system of claim 15 farther comprising a voucher encryption smart card wherein said voucher encryption smart card comprises a voucher encryption key for decrypting said encrypted data.

17 The system of claim 16 wherein said voucher encryption key is selected from a group consisting of a personal identification number (PIN), a private key, a public key, a symmetric key and an asymmetric key.

18 The system of claim 16 wherein said decrypting utilizes techniques selected from a group consisting of symmetric keys, asymmetric keys, data encryption
standard (DES, 3DES), RSA, elliptical curve cryptography (ECC), messageauthentication codes (MAC, HMAC, SHA-1, AES, and public key infrastructure (PKI).
19 The system of claim 1 wherein said voucher terminal further comprises a first voucher application wherein said first voucher application provides retrieving of said
1 8stored electronic prepaid vouchers from said voucher smart card and printing hard copies of said prepaid electronic vouchers.
20 The system of claim 19 wherein said first application further provides decrypting encrypted data stored in said electronic prepaid vouchers.

21 The system of claim I wherein said voucher terminal further comprises a second voucher application wherein said second voucher application provides transferring one or more of said stored prepaid electronic vouchers from said voucher smart card to another voucher smart card.

22 A method for generating and distributing one or more prepaid electronic vouchers issued by a merchant for providing a service or a product, said method
comprising:providing a voucher host system adapted to generate said prepaid electronicvouchers;providing a voucher terminal adapted to receive said prepaid electronicvouchers from said voucher host system over a network connection and to store saidprepaid electronic vouchers in a voucher smart card;placing a purchase order and paying for one of said one or more prepaidelectronic vouchers from said voucher terminal to said voucher host system over saidnetwork. connection;downloading said one prepaid electronic voucher from said voucher hostsystem to said voucher terminal over said network connection and storing said oneprepaid electronic voucher in said voucher smart card;retrieving said one prepaid electronic voucher from said voucher smart card;andpresenting said one prepaid electronic voucher to said merchant and receiving said service or product.
23 The method of claim 22 further comprising providing a transaction server adapted to mediate and aggregate transactions and communications between said voucher terminal and said voucher host system over said network connection.
1 9. The method of claim 22 further comprising printing a hard copy of said one prepaid electronic voucher before presenting said one prepaid electronic voucher to said merchant.
25 The method of claim 22 wherein said one electronic prepaid voucher
comprises data selected from a group consisting of a mobile operator code, a voucher number, a voucher expiration date, said voucher number in an encrypted format, a voucher value, voucher currency code, voucher product code, voucher product description, voucher owner code, and voucher owner.I 0
26 The method of claim 22 wherein said one prepaid electronic voucher
comprises encrypted data.
27 The method of claim 26 wherein an encryption key for said encrypted data is 5 stored in an encryption smart card.

28 The method of claim 27 further comprising decrypting said encrypted data by inserting said encryption smart card in said voucher terminal, retrieving said encryption key and using it to decrypt

said encrypted data.

29 The method of claim 22 wherein said voucher smart card comprises a removable smart card selected from a group consisting of a "full size" smart credit card, a "full size" smart debit card, a "plug-in" Subscriber Identification Module(SIM) smart card, a "plug-in" Secure Access Module (SAM) smart card, acontactless smart card, a stored-value card, a coupon card, a reward card, an electronic cash card, a loyalty card, an identification card and combinations thereof.

30 The method of claim 22 wherein said voucher smart card comprises a hardware security module (HSM) selected from a group consisting ofmicroprocessors and storage accessories.

31 The method of claim 22 wherein said voucher terminal comprises a wireless communication device equipped with a smart card reader/writer module selected from a group consisting of a mobile phone, a personal digital assistant (PDA), a 20pager, a point of sale (POS) ten-ninal, a television remote control, a personal computer and combinations thereof, and wherein said smart card reader/writer module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.

32 The method of claim 22 wherein said voucher terminal comprises a wired communication device equipped with a smart card reader/writer module selected from a group consisting of a phone, a wired personal digital assistant (PDA), a point of sale(POS) terminal, a television, a personal computer and combinations thereof, and I 0 wherein said smart card reader/writer module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.

33 The method of claim 22 wherein said voucher terminal comprises a wireless communication device comprising a subscriber identification module (**SIM**) card **slot**, 5 a smart card reader/**writer** module electrically connected to said **SIM** card **slot** and wherein said smart card reader/**writer** module is adapted to receive and read/write information stored in/to said voucher smart card, respectively.

34 The method of claim 22 wherein said network is selected from a group consisting of the Internet, a telecommunications network, a wireless wide area network (WWAN), a wireless local area network (WLAN), a personal area network (PAN) and a private communication network.

35 The method of claim 34 wherein said wireless wide area network (WWAN) is selected from a group consisting of a Global System for MobileCon-imunications(GSM), General Packet Radio Service (GPRS), a Code Division Multiple Access(CDMA), CDMA 2000, and wideband CDMA(WCDMA).

36 The method of claim 23 wherein said communications comprise a format selected from a group consisting of Short Message Service (SMS), General Packet Radio Service (GPRS), Transmission Control Protocol/Intemet Protocol (TCP/IP), User Datagram Protocol (UDP), Simple Mail Transmission Protocol (SMTP), Simple Network Management Protocol (SNMP), and proprietary message forniats.21. The method of claim 22 wherein said prepaid electronic vouchers comprise data selected from a group consisting of a mobile operator code, a voucher number, a voucher expiration date, said voucher number in an encrypted format, a voucher value, voucher currency code, voucher product code, voucher product description, voucher owner code, and voucher owner.

38 The method of claim 27 wherein said voucher encryption key is selected from a group consisting of a personal identification number (PIN), a private key, a public key, a symmetric key, and an

asymmetric key.

39 The method of claim 28 wherein said decrypting utilizes techniques selected from a group consisting of symmetric keys, asymmetric keys, data encryption
standard (DES, 3DES), RSA, elliptical curve cryptography (ECC), messageauthentication codes (MAC, HMAC, SHA-1, AES, and public key infrastructure (PKI).
40 The method of claim 22 wherein said voucher terminal further comprises a first voucher application wherein said first voucher application provides said retrieving of said stored electronic prepaid vouchers from said voucher smart card and printing hard copies of said prepaid electronic vouchers.

41 The method of claim 40 wherein said first application further provides decrypting of encrypted data stored in said electronic prepaid vouchers.

42 The method of claim 40 wherein said voucher terminal farther comprises a second voucher application wherein said second voucher application provides transferring one or more of said stored prepaid electronic vouchers from said voucher smal t card to another voucher smart card.

43 The method of claim 22 further comprising transferring said one prepaid voucher from said voucher smart card to a second voucher smart card.

44 The method of claim 22 further comprising transferring said one prepaid voucher from said voucher smart card to a second voucher terminal.
22

Claims:

...1 wherein said voucher terminal comprises a wireless communication device comprising a subscriber identification module (**SIM**) card **slot**, I 0 a smart card reader/**writer** module electrically connected to said **SIM** card **slot** and wherein said smart card reader/**writer** module is adapted to receive and read/write information stored in/to said voucher smart... ...22 wherein said voucher terminal comprises a wireless communication device comprising a subscriber identification module (**SIM**) card **slot**, 5 a smart card reader/**writer** module electrically connected to said **SIM** card **slot** and wherein said smart card reader/**writer** module is adapted to receive and read/write information stored in/to said voucher smart...

5/7K/3 (Item 3 from file: 349) **Links**
PCT FULLTEXT

01131656
SYSTEM AND METHOD FOR MOBILE PAYMENT AND FULFILMENT DIGITAL GOODS
SYSTEME ET PROCEDE DE PAIEMENT MOBILE ET DE GESTION OPTIMALE DE COMMANDES DE BIENS NUMERIQUES

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	Country	Number	Kind	Date
Patent	WO	200453640	A2-A3	20040624
Application	WO	2003US38692		20031205
Priorities	US	2002431567		20021206

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)
AE; AG; AL; AM; AT; AU; AZ; BA; BB; BG;
BR; BY; BZ; CA; CH; CN; CO; CR; CU; CZ;
DE; DK; DM; DZ; EC; EE; ES; FI; GB; GD;
GE; GH; GM; HR; HU; ID; IL; IN; IS; JP;
KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT;
LU; LV; MA; MD; MG; MK; MN; MW; MX; MZ;
NO; NZ; OM; PH; PL; PT; RO; RU; SC; SD;

SE; SG; SK; SL; TJ; TM; TN; TR; TT; TZ;
UA; UG; US; UZ; VC; VN; YU; ZA; ZM; ZW;

[EP] AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES;
FI; FR; GB; GR; HU; IE; IT; LU; MC; NL;
PT; RO; SE; SI; SK; TR;

[OA] BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW;
ML; MR; NE; SN; TD; TG;

[AP] BW; GH; GM; KE; LS; MW; MZ; SD; SL; SZ;
TZ; UG; ZM; ZW;

[EA] AM; AZ; BY; KG; KZ; MD; RU; TJ; TM;

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IPC	Level	Value	Position	Status	Version	Action	Source	Office
G06Q-0040/00	A	I	F	B	20060101		H	US

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English Abstract:

An electronic payment and fulfillment system utilized by a customer for purchasing a digital good includes a merchant server 104, a payment server 106, an authentication server 107, a fulfillment server 180 and a communication device 110. The communication device 110 includes a payment card module and the payment card module receives a payment card 190 and reads payment card identification information stored in the payment card. The communication device 110 transmits the payment card identification information to the payment server 106 and then receives the digital good from the fulfillment server 180 and stores it onto the payment card 190. Communications from and to the communication device 110 pass through the authentication server 107.

French Abstract:

La presente invention a trait a un systeme de paiement et de gestion optimale de commandes utilise par un client pour l'achat d'un bien numerique comportant un serveur marchand (104), un serveur de paiement (106), et un serveur d'authentification (107), un serveur de gestion optimale de commandes (180) et un dispositif de communication (110). Le dispositif de communication (110) comprend un module de carte de paiement et le module de carte de paiement recoit une carte de paiement (190) et effectue la lecture d'une information d'identification de carte de paiement memorisee dans la carte de paiement. Le dispositif de communication (110) transmet l'information d'identification de la carte de paiement au serveur de paiement (106) et recoit ensuite le bien numerique du serveur de gestion optimale de commandes (180) et le memorise dans la carte de paiement (190). Les communications depuis et vers le dispositif de communication (110) transitent par le serveur d'authentification (107).

Type	Pub. Date	Kind	Text
Publication	20040624	A2	Without international search report and to be republished upon receipt of that report.
Search Rpt	20060810		Late publication of international search report
Republication	20060810	A3	With international search report.
Republication	20060810	A3	Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Detailed Description:

...entitled "SYSTEM AND METHOD FOR PAYMENT TRANSACTION AUTHENTICATION", 46MOBILE DEVICE EQUIPPED WITH A CONTACTLESS SMART **CARD READER**/WRITER", and "**MOBILE** COMMUNICATION DEVICE EQUIPPED WITH A MAGNETIC STRIPE READER", respectively, the contents of which applications are... ...advantages of this invention may be one or more of the following.

Combining a smart **card reader** (contact or contactless) with a **mobile** phone can dramatically increase the number of smart card reader points of sales in the... ...create more convenience for consumers and more opportunities for merchants. Consumers or merchants with a **mobile** phone equipped with a smart **card reader** would be able to load value to their cards (contact or contactless) anytime, anywhere. Using... ...merchant Point of
5
Sale (POS) system is either too expensive or not feasible, a **mobile** device equipped with a smart **card reader** is significantly more cost effective and convenient.

Brief Description of the Drawings
FIG. I is a schematic diagram of a system for digital goods purchase and fulfillment using a **mobile** device with a smart **card reader** according to this invention.

FIG. 2 illustrates prior art circuitry for the mobile device attachment... ...GSM phone.

FIG. 3 illustrates circuitry for a mobile device attachment that converts a Single-**SIM** GSM phone into a Dual-**SIM** /Dual-**Slot** GSM phone with a contactless smart card reader/ **writer**.

FIG. 4 is a diagram of a payment and digital goods fulfillment system according to... ...this invention.

FIG. 5 illustrates circuitry for a mobile device attachment that converts a Single-**SIM** GSM phone into a Dual- **SIM**/Dual-**Slot** GSM phone with a magnetic stripe card reader/**writer**.

FIG. 6 is a flow diagram for a shopping application on a mobile device.

6... ...size smart cards (See FIG. 2). The prior art defines the basic design of a **mobile** phone that provides a smart **card reader** either attached to the phone as an accessory or embedded into the design of the...or within another full-size smart card that needs to be inserted into a smart **card reader** slot. The communication **mobile** phone device may be a mobile wireless device and the second network may be a...

Claims:

1 5
. An electronic payment and fulfillment system utilized by a customer forpurchasing a digital good comprising:a merchant server adapted to receive a purchase order from said customer for the purchase of said digital good, and to create a digital order comprising purchaseorder information;a payment server adapted to receive said digital order from said merchantserver and to further route said digital order;an authentication server adapted to receive said digital order from saidpayment server, format said digital order into a first message and further route said1 0 first message;a communication device comprising a payment card module wherein saidpayment card module is adapted to receive a payment card and read payment cardidentification information stored in said payment card. and wherein saidcommunication device is adapted to receive said first message from saidauthentication server, display said first message to said customer, request and receive authorization for payment for said purchase order with said payment card from said customer, retrieve said payment card identification information, request and receive payment card security information from said customer, and route said authorization and said payment card identification and security information to the authentication server, and wherein said authentication server further routes said authorization and payment card identification and security information to said payment server and from said payment server to a financial institution, wherein said financial institution is asked to execute said payment and to send a payment confirmation through said payment server to said merchant server and to said authentication server; and a fulfillment server adapted to receive said payment confirmation from said payment server and transmit said digital good via said authentication server to said communication device, wherein said communication device stores said digital good onto said payment card.
2 The system of claim I wherein said communication device comprises a
wireless communication device.
3 The system of claim 1 wherein said communication device comprises a wired communication device.
1 6. The system of claim 3 wherein said merchant server, said payment server, said authentication server, said fulfillment server and said communication device are adapted to send and receive messages among each other via a first network.
5 The system of claim 2 wherein said merchant server, said payment server, said authentication server, and said fulfillment server are adapted to send and receive messages among each other via a first network and said wireless communication device is adapted to send and receive messages to said authentication server via a 1 0 second network and wherein said second network comprises a wireless network.

6 The system of claim 2 wherein said wireless communication device is selected from a group consisting of a mobile phone, a personal digital assistant, a pager, a wireless laptop computer, a personal computer, a television remote control, 1 5 programmable versions thereof and combinations thereof.

7 The system of claim 5 wherein said wireless network is selected from a group consisting of a wireless wide area network (WWAN), a wireless local area network (WLAN), a personal area network (PAN) and a private communication network.

8 The system of claim 7 wherein said wireless wide area network (WWAN) is
selected from a group consisting of a Global System for MobileCommunications(GSM), General

Packet Radio Service (GPRS), a Code Division Multiple Access(CDMA), CDMA 2000, and wideband CDMA(WCDMA).
9 The system of claim 4 wherein said wired communication device comprises a telephone and said first network comprises a telecommunications network.

10 The system of claim 4 wherein said wired communication device comprises a computer and said first network comprises the Internet.

11 The system of claim I wherein said payment card comprises a smart card selected from a group consisting of a full size smart card, a contactless smart card, a SIM smart card, a USIM smart card, a credit card, a debit card, a stored-value card, a
17coupon card, a reward card, an electronic cash card, a loyalty card, an identification card and combinations thereof.
12 The system of claim 1 wherein said payment card comprises a magnetic stripe card.

13 The system of claim I wherein said merchant server receives said purchase order by said customer via a route selected from a group consisting of the Internet, telephone connection, mail order form, fax, e-mail, voice recognition system, shot message service, interactive voice recording (IVR), and face-to-face communication with the customer.

14 The system of claim 2 wherein said wireless communication device comprises a subscriber identification module (SIM) card slot and said payment card module is electrically connected to said SIM card slot.

15 The system of claim 1 wherein said payment card information is selected from a group consisting of cardholder identification information, card identification information, authentication information, card issuer information, and financial institution information.

16 The system of claim 1 wherein said digital good is selected from a group consisting of electronic cash, electronic tickets, electronic coupons, loyalty points, credits for pre-paid mobile airtime, credits for pre-paid utilities, electronic gift certificates, digital rights managements(DRM) certificates, electronic transit tokens, music, software, movies, and books.

17 The system of claim I wherein said merchant server and said fulfillment server comprise one entity.

18 The system of claim 1 wherein said customer places said purchase order to said merchant server via said communication device.
1 8. The system of claim I wherein said communication device ffirther comprises a shopping application and wherein said customer utilizes said shopping application, to select said digital good, to place said purchase order, to authorize, authenticate and pay with said payment card, and to store said digital good onto said payment card.
20 The system of claim I wherein said payment card module comprises a
payment card reader and writer module. 21.. The system of claim I wherein said communication device further comprises a 1 0 digital good generation application and wherein said digital good generation application receives a digital receipt for said digital good and generates said digital good.
22 The system of claim 1 wherein said first message comprises a forinat selected 1 5 from a group consisting of Short Message Service (SMS), General Packet Radio Service (GPRS), Transmission

Control Protocol/Internet Protocol (TCP/IP), User Datagrain Protocol (UDP), Simple Mail Transmission Protocol (SMTP), Simple Network Management Protocol (SNMP), and proprietary message forniats.

23 An electronic payment and fulfillment method utilized by a customer for purchasing a digital good comprising:placing a purchase order with a merchant server for said digital good andchoosing to pay via a communication device;providing said merchant server with identification information for saidcommunication device;creating a digital order comprising purchase order information and saididentification number for said communication device by said merchant server; routing said digital order to a payment server and from said payment server toan authentication server;formatting said digital order into a first message by said authentication serverand routing said first message to said communication device;displaying said first message on said communication device and requestingand receiving authorization of payment fi-om the customer;19retrieving identification information of a payment card from saidcommunication device;requesting and receiving security information of said payment card from saidcustomer via said communication device;routing said authorization and said payment card identification and security information through said authentication server to said payment server and from saidpayment server to a financial institution;executing said payment at said financial institution and sending a paymentconfirmation to said payment server;routing said payment confirmation from said payment server to said merchantserver and to a fulfillment server;transmitting said digital good from said fulfillment server via saidauthentication server to said communication device; andstoring said digital good onto said payment card by said communicationdevice.

24 The method of claim 23 wherein said communication device comprises a payment card module adapted to receive said payment card and read said payment card identification information stored in said payment card and to receive a digital good and store said digital good onto said payment card.

25 The method of claim 23 wherein said communication device comprises a wireless communication device.

26 The method of claim 23 wherein said communication device comprises a wired communication device.

27 The method of claim 26 wherein said merchant server, said payment server, said authentication server, said fulfillment server and said communication device are adapted to send and receive messages among each other via a first network.

28 The method of claim 25 wherein said merchant se rver, said payment server, said authentication server, and said fulfillment server are adapted to send and receive messages among each other via a first network and said wireless communication 20device is adapted to send and receive messages to said authentication server via a second network and wherein said second network comprises a wireless network.

29 The method of claim 25 wherein said wireless communication device is selected from a group consisting of a mobile phone, a personal digital assistant, a pager, a wireless laptop computer, a personal computer, a television remote control, programmable versions thereof and combinations thereof.

30 The method of claim 28 wherein said wireless network is selected from a group consisting of a wireless wide area network, (WWAN), a wireless local area network (WLAN), a personal area network (PAN) and a private communication network.

31 The method of claim 30 wherein said wireless wide area network (WWAN) is selected from a group consisting of a Global System for MobileCommunications(GSM), General Packet Radio Service (GPRS), a Code Division Multiple Access(CDMA), CDMA 2000, and wideband CDMA(WCDMA).
32 The method of claim 26 wherein said wired device comprises a telephone and said first network comprises a telecommunications network.

33 The method of claim 26 wherein said wired device comprises a computer and said first network comprises the Internet.

34 The method of claim 23 wherein said payment card comprises a smart card selected from a group consisting of a full size smart card, a contactless smart card, a SIM smart card, a USIM smart card, a credit card, a debit card, a stored-value card, a coupon card, a reward card, an electronic cash card, a loyalty card, an identification card and combinations thereof.

35 The method of claim 23 wherein said payment card comprises a magnetic stripe card.21. The method of claim 23 wherein said placing a purchase order comprisesplacing a purchase order via a route selected from a group consisting of the Internet, telephone connection, mail order form, fax, e-mail, voice recognition system, shot message service, interactive voice recording (IVR), and face-to-face communication with the customer.
37 The method of claim 24 wherein said communication device comprises a subscriber identification module (SIM) card slot and said payment card module is electrically connected to said SIM card slot.1 0
38 The method of claim 23 wherein said payment card information is selected from a group consisting of cardholder identification information, card identification information, authentication information, card issuer information, and financial institution information.
1 5
39 The method of claim 23 wherein said digital good is selected from a group consisting of electronic cash, electronic tickets, electronic coupons, loyalty points, credits for pre-paid mobile airtime, credits for pre-paid utilities, electronic gift certificates, digital rights managements(DRM) certificates, electronic transit tokens, music, software, movies, and books.

40 The method of claim 23 wherein said merchant server and said fulfillment server comprise one entity.

41 The method of claim 23 wherein said customer places said purchase order to said merchant server via said communication device.

42 The method of claim 23 wherein said communication device ftirther comprises a shopping application and wherein said customer utilizes said shopping application, to select said digital good, to place said purchase order, to authorize, authenticate and pay with said payment card, and to store said digital good onto said payment card.

43 The method of claim 24 wherein said payment card module comprises a payment card reader and writer module.22. The method of claim 23 wherein said communication device further comprises a digital good generation application and wherein said digital good generation application receives a digital receipt for said digital good and generates said digital good.
45 The method of claim 23 wherein said first message comprises a format

selected from a group consisting of Short Message Service (SMS), General Packet Radio Service (GPRS), Transmission Control Protocol/Internet Protocol (TCP/IP), User Datagram Protocol (UDP), Simple Mail Transmission Protocol (SMTP), Simple Network Management Protocol (SNMP), and proprietary message formats.1 523

5/7K/4 (Item 4 from file: 349) **Links**
PCT FULLTEXT

01089915
MOBILE DEVICE EQUIPPED WITH A CONTACTLESS SMART CARD READER/WRITER
DISPOSITIF MOBILE EQUIPE D'UN DISPOSITIF DE LECTURE/ECRITURE DE CARTE A PUCE INTELLIGENTE SANS CONTACT

Patent Applicant/Patent Assignee:

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- **GOLDTHWAITE Scott**; 15 Oregon Court, Hingham, MA 02043 US; US(Residence); US(Nationality)
- **GRAYLIN William**; 229 Washington Street, Woburn, MA 01801 US; US(Residence); US(Nationality)

Patent Applicant/Inventor:

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Legal Representative:

- **COLLINS Aliki K(agent)** AKC Patents, 215 Grove Street, Newton, MA 02466; US;

	Country	Number	Kind	Date
Patent	WO	200412352	A1	20040205
Application	WO	2003US23080		20030724
Priorities	US	2002399686		20020730

Designated States: (All protection types applied unless otherwise stated - for applications 2004+)

[EP] AT; BE; BG; CH; CY; CZ; DE; DK; EE; ES;
FI; FR; GB; GR; HU; IE; IT; LU; MC; NL;
PT; RO; SE; SI; SK; TR;

[OA] BF; BJ; CF; CG; CI; CM; GA; GN; GQ; GW;
ML; MR; NE; SN; TD; TG;

[AP] GH; GM; KE; LS; MW; MZ; SD; SL; SZ; TZ;

UG; ZM; ZW;

[EA] AM; AZ; BY; KG; KZ; MD; RU; TJ; TM;

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H04B-001/38	Main

Publication Language: English
Filing Language: English
Fulltext word count: 7529

English Abstract:

A wireless mobile device (550) is adapted to access a wireless network and includes a subscriber identification module (SIM) card slot (552) and a contactless smart card module (500) electrically connected to the SIM card slot (552) and thereby to the wireless mobile device (550). The contactless smart card module (500) is adapted to receive and read information stored in a contactless smart card (506) and transmit this information to an entity through the wireless mobile device (550) and the wireless network. The wireless mobile device (550) of this invention is used to conduct financial transactions using the contactless smart card (506). The financial transactions include face-to-face or remote purchases, payment with electronic cash stored in the contactless smart card, or payment with the contactless smart card through a financial institution, and downloading and storing of digital goods or services in the contactless smart card.

French Abstract:

L'invention a trait a un dispositif mobile sans fil (550), adapte pour acceder a un reseau sans fil, et comprenant une fente pour carte d'identification de l'abonne (SIM) (552), et un module de carte a puce intelligente sans contact (500), lequel est relie par voie electrique a la fente pour carte SIM (552) et ainsi au dispositif mobile sans fil (550). Le module de carte a puce sans contact (500) est adapte de maniere a recevoir et a lire des informations stockees dans une carte a puce intelligente sans contact (506), et a transferer ces informations vers une entite par l'intermediaire du dispositif mobile sans fil (550) et du reseau sans fil. Le dispositif mobile sans fil (550) selon l'invention sert a mener des operations financieres au moyen de la carte a puce intelligente sans contact (506). Parmi lesdites operations financieres, on compte les achats en personne ou a distance, le paiement au moyen de monnaie electronique stockee dans la carte a puce intelligente sans contact, ou le paiement au moyen de la carte a puce intelligente sans contact par l'intermediaire d'une institution financiere, et le telechargement et le stockage de biens ou de services numeriques dans la carte a puce intelligente sans contact.

Type	Pub. Date	Kind	Text
Publication	20040205	A1	With international search report.
Publication	20040205	A1	Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

Detailed Description:

...phone I 1 0 that is equipped with a contactless smart card reader/writer.

The **mobile** phone 1 1 0 establishes a communication link 70 with the contactless smart card and...

Claims:

1 5
. A wireless mobile device adapted to access a wireless network comprising:a subscriber identification module (SIM) card slot; anda contactless smart card module electrically connected to said SIM card slot;andwherein said contactless smart card module is adapted to receive and read information sto'red in a contactless smart card and transmit said information to an entity via said wireless network.I 0
2 The wireless mobile device of claim 1 wherein said contactless smart card module is fw-ther adapted to receive information from said entity via said network and transmit and write said inforination in said contactless smart card. 1 5 3. The wireless mobile device of claim 1 wherein said information is selected from a group consisting of cardholder identification information, card identification information, authentication information, smart card issuer information, financial institution information, digital goods, digital services, and digital currency.

4 The wireless mobile device of claim 3 wherein said digital goods are selected from a group consisting of electronic cash, electronic coupons, electronic gift certificates, electronic transit tokens,, music, software, movies, and books.

5 The wireless mobile device of claim 1 further comprising;
a memory;a Central Processing Unit (CPU);a SIM card conriected to said SIM card slot, said SIM card authenticating saidwireless mobile device to said wireless network; anda first application program associated with said memory and said CPU andbeing adapted to receive and transmit instructions from said contactless smart card module to said wireless mobile phone and the reverse.1
6. The wireless mobile device of claim 5 further comprising a second application program associated with said memory and said CPU and being adapted to route and transmit data and information among said wireless mobile phone, said smart card module, and other interfaces connected to said CPU.
7 The wireless mobile device of claim 6 wherein said other interfaces are selected from a group consisting of smart card interfaces, infrared transceiver interfaces, serial communication interfaces, and magnetic stripe reader interfaces.

8 The wireless mobile device of claim 6 wherein said first and second
application programs are stored in storage selected from a group consisting of said CPU, said SIM card, an external SIM card, said contactless smart card , and an external card. 1 5 9. The wireless mobile device of claim 1 further comprising an antenna for receiving and transmitting messages to and from said contactless smart card.
10 The wireless mobile device of claim I wherein said wireless mobile device is selected from a group consisting of a mobile phone, a personal digital assistant, a pager, a wireless laptop computer, a personal computer, a television remote control, and combinations thereof.

11 The wireless mobile device of claim I wherein said wireless network is selected from a group consisting of a wireless wide area network (WWAN), a wireless local area network (WLAN), a private network, and a personal area network (PAN).

12 The wireless mobile device of claim 1 1 wherein said wireless wide area network (WWAN) is selected from a group consisting of a Global System for Mobile
Communications(GSM), a Code Division Multiple Access(CDMA), CDMA 2000,and wideband

CDMA(WCDMA).17. The wireless mobile device of claim I wherein said wireless mobile device is used for making financial transactions between a user and said entity with said contactless smart card over said network.
14 The wireless mobile device of claim 13 wherein said financial transactions between said user and said entity are face-to-face.

15 The wireless mobile device of claim 13 wherein said financial transactions between said user and said entity are remote.

16 An electronic communication method comprising:
purchasing a good or a service from a merchant; andpaying with a contactless smart card via a wireless mobile device;wherein said wireless mobile device is adapted to access a wireless network and comprises a subscriber identification module (SIM) card slot and a contactless smart card module electrically connected to said SIM card slot and wherein said contactless smart card module is adapted to receive and read information stored in said contactless smart card and transmit said information to an entity via said wireless network.
17 The electronic communication method of claim 16 further comprising
receiving said good or service electronically and storing it in said contactless card.
18 The electronic communication method of claim 14 further comprising
retrieving said good or service fi-om said contactless card and redeeming it.
19 An electronic payment method utilized by a customer to pay a merchant with electronic cash stored in a contactless smart card for a face-to-face purchase of a good
or service comprising:placing an order by said customer for said purchase of said good or service tosaid merchant;providing a wireless mobile device wherein said mobile device is adapted to access a wireless network and comprises a subscriber identification module (SIM) card slot and a contactless smart card module electrically connected to said SIM cardl 8slot and wherein said contactless smart card module is adapted to receive and read information stored in said contactless smart card and transmit said information viasaid wireless network;entering information of said purchase in said wireless mobile phone;positioning said contactless smart card in close proximity to said wireless mobile device, retrieving smart card identification information and authorizing withdrawal of an electronic cash amount for payment for said good or service fromsaid smart card;sending said purchase information, said smart card identification information and said electronic cash amount to an authentication server via said wireless network; authenticating and sending said purchase information and said electronic cash amount by said authentication server to a business account of said merchant held in afinancial institution;registering said purchase information and depositing said electronic cash 1 5 amount to said merchant's business account and sending confirmation by saidfinancial institution to said authentication server;forwarding said confirmation to said wireless mobile phone; andfulfilling said order to said customer by said merchant.
20 An electronic payment method utilized by a customer to pay a merchant with a contactless smart card for a face-to-face purchase of a good or service comprising: placing an order by said customer for said purchase of said good or service to
said merchant;providing a wireless mobile device wherein said wireless mobile device is adapted to access a wireless network and comprises a subscriber identification module (SIM) card slot and a contactless smart card module electrically connected to said SIM card slot and wherein said contactless smart card module is adapted to receive and read information stored in said contactless smart card and transmit saidinformation via said wireless network;entering information of said purchase in said wireless mobile phone;positioning said contactless smart card in close proximity to said wireless mobile device, retrieving smart card identification information from said

contactlesssmart card and authorizing payment for said good or service;1 9formatting said purchase inform@tion, said smart card identificationinformation and said payment authorization into a first message and sending said firstmessage to an authentication server via said wireless network;authenticating and sending said first message by said authentication server to afinancial institution;registering said purchase information and sending approval for said paymentby said financial institution to said authentication server;forwarding said payment approval to said wireless mobile phone; andfulfilling said order to said customer by said merchant.1 0

21 The electronic payment method of claim 20 wherein said first message comprises a format selected from a group consisting of Short Message Service (SMS), General Packet Radio Service (GPRS), Transmission Control Protocol/Internet Protocol (TCP/IP), User Datagram Protocol (UDP), Simple Mail Transmission 1 5 Protocol (SMTP), Simple Network Management Protocol (SNMP), and proprietary message formats.

22 An electronic payment method utilized by a customer to pay a merchant with a contactless smart card for a remote purchase of a good or service comprising: placing an order by said customer for said purchase of said good or service to a merchant server via a first network and choosing to pay via a wireless mobile device wherein said wireless mobile device is adapted to access a wireless network and comprises a subscriber identification module (SIM) card slot and a contactless smart card module electrically connected to said SIM card slot and wherein said contactless smart card module is adapted to receive and read information stored in said contactless smart card and transmit said information via said wireless network; providing said merchant server with an identification information for said wireless mobile device;creating a digital order comprising purchase information and saididentification number for said wireless mobile device by said merchant server; routing said digital order to an authentication server via said first network; formatting said digital order into a first message wherein said first messageis adapted to be transmitted over said wireless network;20routing said first message over said wireless network to said wireless mobiledevice;displaying said first message on said wireless mobile device;requesting and receiving authorization of payment from the customer via saidwireless mobile device;positioning said contactless smart card in close proximity to said wireless mobile device and retrieving smart card identification and security information; formatting authorization result and smart card identification and security information into a second message and routing said second message to saidauthentication server;authenticating and routing said second message to a financial institution, wherein said financial institution is the issuer of said contactless smart card; and approving and executing said payment at said financial institution. forwarding said payment approval to said authentication server and from saidauthentication server to said wireless mobile phone; andfulfilling said order to said customer by said merchant.

23 The electronic payment method of claim 22 wherein said good or service comprises a digital good or a digital service and wherein said fulfilling comprises downloading and storing said digital good or service in said contactless smart card.

24 The electronic payment method of claim 23 wherein said digital good is selected fi-om a group consisting of electronic cash, electronic coupons, electronic gift certificates, electronic transit tokens,, music, software, movies, and books.

25 The electronic payment method of claim 22 wherein said wireless mobile device is selected from a group consisting of a mobile phone, a personal digital assistant, a pager, a wireless laptop computer, a personal computer, a television remote control, and combinations thereof.

26 The electronic payment method of claim 22 wherein said wireless network is selected from a group consisting of a wireless wide area network (WWAN), a
21wireless local area network (WLAN), a private network, and a personal area network (PAN).
27 The electronic payment method of claim 26 wherein said wireless wide area network (WWAN) is selected from a group consisting of a Global System for Mobile
Communications(GSM), a Code Division Multiple Access(CDMA), CDMA 2000,and wideband CDMA(WCDMA).
28 The electronic payment method of claim 22 wherein said first and second I 0 messages comprise a format selected from a group consisting of Short Message
Service (SMS), General Packet Radio Service (GPRS), Transmission ControlProtocol/Internet Protocol (TCP/IP), User Datagram Protocol (UDP), Simple Mail Transmission Protocol (SMTP), Simple Network Management Protocol (SNMP), and proprietary message formats.1 522

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